Montana Fish, Wildlife & Parks

P.O. Box 1630
Miles City, MT 59301
December 31, 1997

Montana Fish, Wildlife & Parks
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Legal Unit - Legal Secretary
Regional Supervisor
Karen Zackhiem - Enforcement
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Bud Clinch, DNRC, P.O. Box 201601, 1625 11th Avenue, Helena, MT 59620
Montana Historical Society, 225 North Roberts, Helena, MT 59620-1201
Montana State Library, 1515 East Sixth Avenue, Helena, MT 59620-1800
Jim Jensen, P.O. Box 1184, Helena, MT 59624
George Ochenski, P.O. Box 689, Helena, MT 59624
Luella Schultz, Dept. of Livestock, Animal Health Division, Box 202001, Helena, MT 59620-2001
Montana River Action Network, P.O. Box 8298, Bozeman, MT 59773-8298
Herbert Johnson, 63 Hawthorn Avenue, Apt. #2, Kalispell, MT 59901
Randy Weaver, c/o Border Pipe & Supply, 501 East Main, Cut Bank, MT 59427
Bruce Barta, 190 1st N Ashuelot Road, Fort Shaw, MT 59443
Montana Wildlife Federation, P.O. Box 1175, Helena, MT 59624
Richland County Commissioners, Richland County Courthouse, Sidney, MT 59270
James Carlisle, 206 2nd Avenue East, Culbertson, MT 59218

Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) has been prepared for the Raaums Big Horn Ranch Game Farm and is submitted for your consideration. Questions and comments will be accepted through 5:00 p.m., Tuesday, January 20, 1997. Please direct your questions or comments to Fish, Wildlife & Parks, P.O. Box 1630, Miles City, MT 59301 ATTN: Don Hyyppa.

Sincerely,

Don Hyyppa

PLEASE RETURN

Don Hyyppa
Regional Supervisor

Enclosure

DRAFT

ENVIRONMENTAL ASSESSMENT

RAAUMS BIG HORN RANCH GAME FARM

Montana Fish, Wildlife & Parks
Region 7
P.O. Box 1630
Miles City, Montana 59301

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INTRODUCTION

Montana Fish, Wildlife and Parks (FWP) is required to perform an environmental analysis in accordance with the Montana Environmental Policy Act (MEPA) for each proposal for projects, programs, legislation, and other major actions of state government significantly affecting the quality of the human environment (Administrative Rules of Montana [ARM] 12.2.430). FWP uses environmental assessments (EAs) in the game farm licensing process to identify and evaluate environmental impacts of a proposed game farm. EAs also determine whether the impacts would be significant and whether, as a consequence, FWP would perform a more detailed environmental impact statement (EIS).

When preparing an EA, FWP reviews environmental impacts of the Proposed Action, impacts of the No Action Alternative, and impacts of other alternative actions which include recommended and/or mandatory measures to mitigate the project's impacts. A mitigated EA includes alternatives with enforceable requirements (stipulations) which reduce impacts of the Proposed Action. The EA may also recommend a preferred alternative for the FWP decision maker.

Based upon its review of the Raaums Big Horn Ranch game farm application, FWP has prepared a mitigated EA.

OBJECTIVES

This EA has been prepared to serve the following purposes in accordance with FWP MEPA rules (ARM 12.2.430):

- to ensure that FWP uses natural and social sciences in planning and decision making;
- to be used in conjunction with other agency planning and decision-making procedures to make a determination regarding the Proposed Action;
- to assist in the evaluation of reasonable alternatives and the development of conditions, stipulations, and modifications to the Proposed Action,
- to determine the need to prepare an EIS through an initial evaluation and determination of the significance of impacts associated with the Proposed Action;
- to ensure the fullest appropriate opportunity for public review and comment on the Proposed Action; and
- to examine and document the effects of the Proposed Action on the quality of the human environment.

PUBLIC PARTICIPATION

Public involvement in the Environmental Assessment (EA) process includes steps to identify and address public concerns. The Draft EA would be available for public review and comment from December 31, 1997 until 5 pm January 20, 1998 from the Region 7 FWP office at the address listed below. Submit all comments regarding this EA to the same address.

Mr. Don Hyyppa
Fish, Wildlife and Parks
P.O. Box 1630
Miles City, Montana 59301
Phone (406) 232-4365
Fax (406) 232-4368

PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

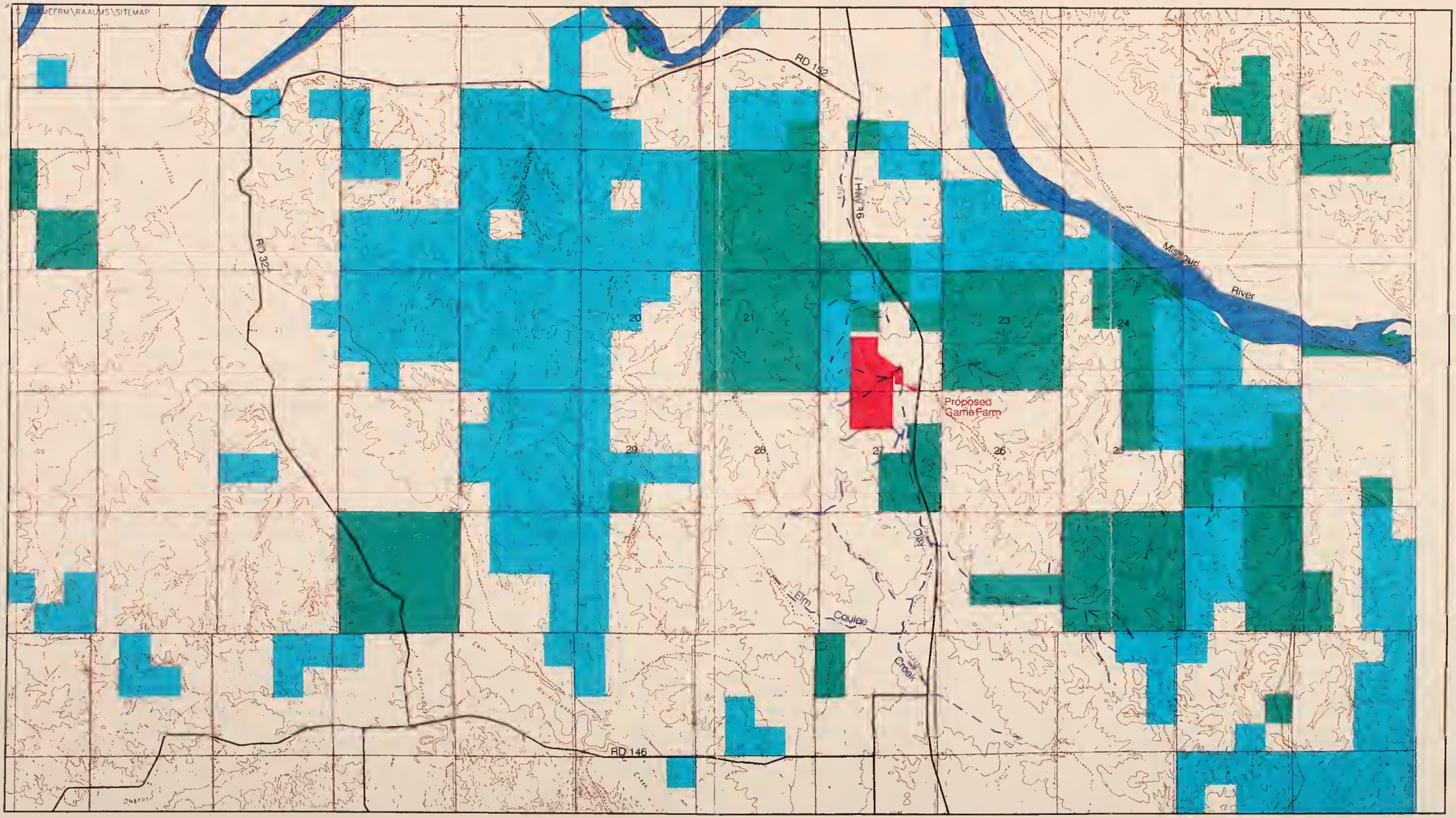
The FWP received a completed application October 10, 1997 from Mr. Terril Raaum to develop a new game farm referred to as the Raaums Big Horn Ranch game farm. The proposed game farm is located approximately 5 miles south of Culbertson, in Richland County, Montana (**Figure 1**). The Proposed Action consists of constructing a new 115-acre game farm to include a quarantine and handling facility within the game farm enclosure.

The Proposed Action would include placing up to 60 elk on 115 acres. The proposed game farm would be constructed in two phases; an initial 15-acre enclosure followed by a 100-acre expansion. The estimated date for future expansion is 1998. The applicant would breed, sell, and dispose of domestic elk in accordance with Montana game farm and disease control requirements stipulated in Montana statute and administrative rules. Fence construction would be in accordance with requirements of FWP under ARM 12.6.1503A unless a waiver is granted by FWP to construct a game-proof fence of an alternative design.

The Proposed Action includes several measures to mitigate potential problems in providing a game-proof fence at the game farm site. Fence height would be increased to 9 feet to prohibit ingress/egress in locations where the perimeter fence crosses steep (30 degree) slopes. These areas include approximately 1,700 feet along the west perimeter where the fence crosses several steep coulees and approximately 700 feet along the south perimeter where the fence crosses steep slopes. In addition, tree limbs overhanging the perimeter fence would be removed to reduce the probability of fence damage during periods of high winds. Finally, snow removal would be performed along the perimeter fence during severe winters if the height of the fence above the compacted snow level becomes sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access to supplemental feed provided the game farm animals.

ALTERNATIVES

One alternative (No Action Alternative) is evaluated in this EA. Under the No Action Alternative, FWP would not issue a license for the Raaums Big Horn Ranch game farm as proposed. Therefore, no game farm animals would be placed on the proposed game farm area. Implementation of the No Action Alternative would not preclude other activities allowed under local, state and federal laws to take place at the game farm site.



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Public Lands

State Lands

Intermittent Stream

Note: Ownership Data Derived From
Bureau of Land Management
Montana Public Lands, 1:100,000
Scale Quadrangles, Source Data 1975

Site Map
Proposed Game Farm EA
Raaum's Big Horn Ranch
Culbertson, Montana
FIGURE 1

PURPOSE AND NEED OF THE PROPOSED ACTION

The Raaums Big Horn Ranch game farm would be a commercial enterprise involved in meat production, trophy sales and antler production, as well as to provide elk breeding stock to the game farm market.

ROLE OF FWP AND DEPARTMENT OF LIVESTOCK (DoL)

FWP is the lead agency in preparing this EA for the proposed project. This document is written in accordance with the Montana Environmental Quality Council (EQC) MEPA Handbook and FWP statutory requirements for preparing an EA under Title 75, Chapter 1, Part 2 Montana Code Annotated (MCA) and FWP rules under ARM 12.2.428 et seq.

FWP shares regulatory responsibilities for new and expanding game farms with the DoL. The DoL is responsible for regulating the health, transportation and identification of game farm animals. During the application process, all quarantine area plans and specifications are submitted to the DoL for approval and inspection of the proposed quarantine facility. No licenses are issued without such approval and inspection.

AFFECTED ENVIRONMENT

The proposed Raaums Big Horn Ranch game farm is located about 5 miles south of Culbertson in Richland County, Montana. Existing land use of the game farm site is primarily livestock grazing and hay production (**Figure 2**). This section summarizes the primary environmental resources in the project area.

LAND RESOURCES

The land included in the proposed game is divided into two acreage blocks: an initial 15-acre enclosure and an expansion area consisting of 100 acres. The 15 acre area is situated on Day Creek bottomland at an elevation of about 2,020 feet above mean sea level. The expansion area is located west of Day Creek in grass and shrub covered hills dissected by coulees. The ridgetops along the western expansion boundary are about 200 feet higher in elevation than Day Creek. Outcrops of soft sedimentary beds appear on the ridgetops and steep sides of the coulees.

Bedrock geology of the area is mapped as the Tongue River Member of the Fort Union Formation, composed of sandstones, siltstones, and shales of early Tertiary (Paleocene) age. Soils formed on these rocks are generally calcareous, weakly developed, and free of coarse fragments, except some subsoils which contain fragments of weakly weathered shale.

The Soil Conservation Service has mapped four primary soil units on the Raaums property that consist of silt and clay loams. Runoff on soils in the 15 acre area is slow and the hazard of erosion is slight. In the 100-acre expansion area, runoff is rapid with high erosion hazard.

WATER RESOURCES

The proposed Raaum game farm site is located in the Day Creek drainage that extends north from the game farm area about 3 miles to the Missouri River. Day Creek is ephemeral, flowing only in response to significant precipitation events and snowmelt runoff. The Day Creek channel enters the southeast corner of the 15-acre portion of the game farm and follows the eastern side of the perimeter fence. The proposed game farm site is located on relatively flat bottomland (15-acre area) and on east-facing hills and coulees (100-acre area) that are part of the Day Creek drainage basin.

G:\GAMEFRM\RAAUMS\LANDUSE

20 21 22 23 24

29 28 27 26 25

Proposed Game Farm

100 Acre Phase 2

15 Acre Phase 1

Hwy 16

Clear Creek

Missouri River

N

0 Feet 1500

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Brush Rangeland

Grass Rangeland

Mixed Rangeland

Other Agriculture

Intermittent Stream

Note: Land Use/Land Cover Data For Information Presented On This Map Was Derived From U.S. Geological Survey's Geographic Information Retrieval And Analysis System Files At A Scale Of 1:250,000. Source Data is 1980 (Wolf Point)

Land Use/Land Cover
Proposed Game Farm EA
Raaum's Big Horn Ranch
Culbertson, Montana
FIGURE 2

The 15-acre bottomland portion of the game farm area is underlain by unconsolidated sediments deposited from the creek and hillside erosion. The remaining 100-acre portion is underlain by sandstone, siltstone, and shale. No wetland/riparian areas, ponds, or springs/seeps were identified within or near the proposed game farm enclosures. Nine private wells reportedly are located within approximately 1 mile of the game farm site; these wells range in depth from about 70 to 200 feet below ground surface and likely obtain water from bedrock. Stock water would be supplied to the domestic elk from an existing well located near the game farm site.

VEGETATION RESOURCES

The proposed game farm is primarily comprised of an open riparian deciduous forest (15 acres) and riverbreaks rangeland habitat. The bottomland forest is dominated by American elm, green ash, box elder, and chokecherry. The herbaceous layer is comprised of smooth brome and kochia. This bottomland habitat will produce an average of approximately 3,000 pounds of hay per acre per year. However, grass and forb production under the forest canopy would be expected to be less.

The riverbreaks rangeland habitat is dominated by the blue grama/western wheatgrass habitat type. In addition to these two grass species, other common plants include silver sagebrush and rabbitbrush in the coulee bottoms, and Rocky mountain juniper, horizonal juniper, yucca and little bluestem on steeper slopes. Productivity in this portion of the proposed enclosure is estimated to average about 500 pounds per acre. Coulees within the proposed 100-acre enclosure also contain small isolated stands of green ash.

WILDLIFE RESOURCES

The proposed game farm is comprised of 15 acres of forested bottomland habitat and 100 acres of grassland dominated riverbreaks habitat (**Figure 2**). This area is currently used to pasture cattle, and to hold and feed cattle. The forested area along Day Creek is suitable habitat for many common neotropical migrant bird species. The rangeland is capable of providing habitat to prairie wildlife species characteristic of this area. The proposed game farm is located about 3 miles south of the Missouri River. The Missouri River in this section is free flowing and contains extensive bottomland habitat.

The proposed game farm is situated within year-long, low density white-tailed deer and mule deer habitat (**Figure 3**). The mule deer in this area are associated with the broken upland areas and the white-tailed deer are associated with the forested bottomland habitat. There are no areas of concentrated winter deer use on or near the proposed game farm. Pronghorn antelope occur in the surrounding upland prairies and a small herd occasionally uses the Day Creek bottomlands, but the proposed game farm does not include habitat that is normally used by pronghorns. Ring-necked pheasants and Merriam's turkeys occur along the Day Creek bottomlands.

Bald eagles (a Federally listed threatened species) stage along the Missouri River below Fort Peck dam during spring and fall migratory periods. Bald eagles are not known to nest in the game farm vicinity and the proposed game farm is located sufficiently far from the Missouri River that it would not influence daily activity of eagles. The proposed game farm is located within the migratory corridor of whooping cranes (endangered), and peregrine falcons (endangered) may also be migratory through this area. The occurrence of elk, black bears, mountain lions and gray wolves (threatened) in this area is limited to the chance of an occasional transient individual passing through this area. There are no other Federally listed threatened and endangered species expected to occur in this area.

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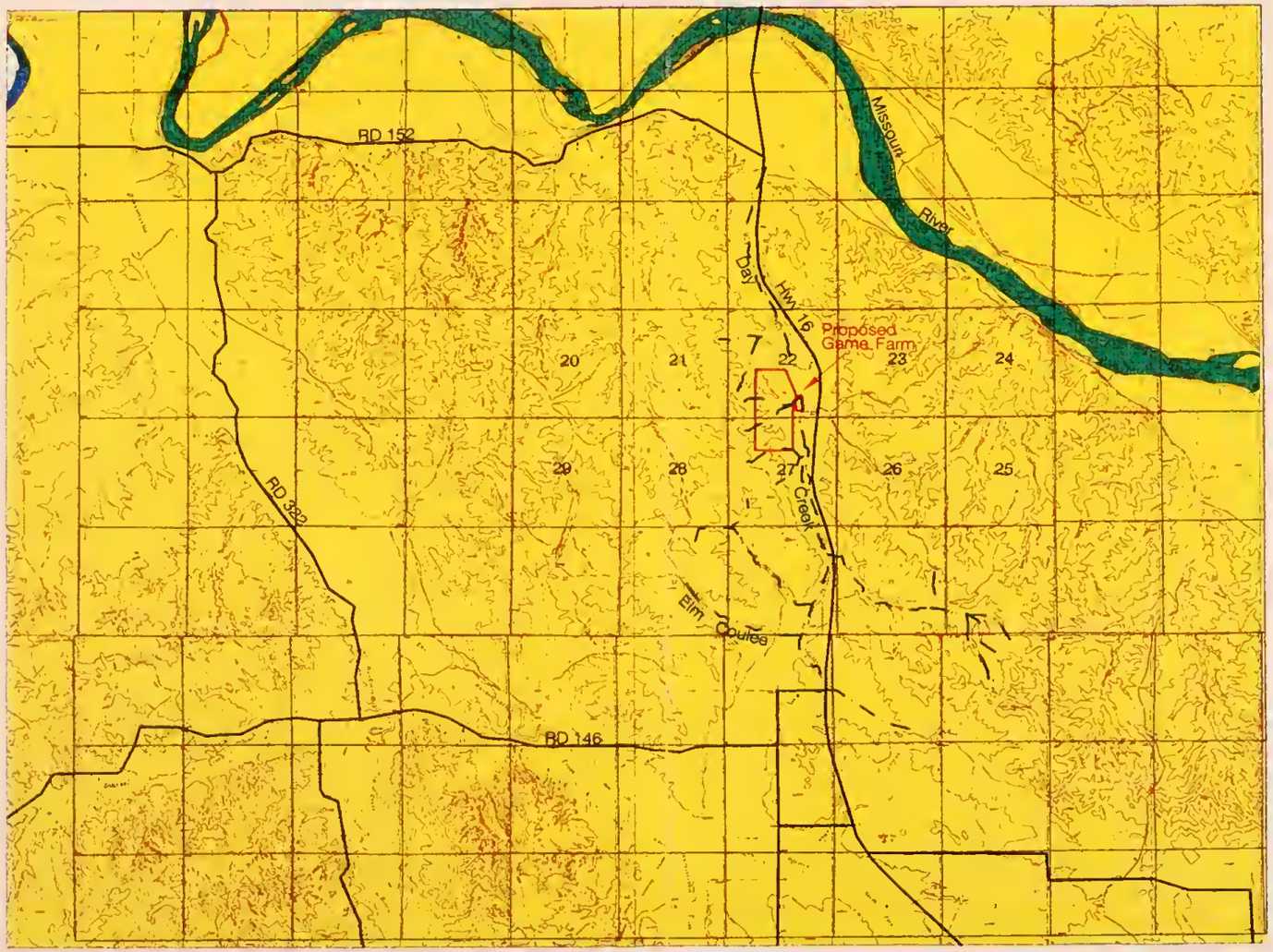

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White-Tail Deer and Mule Deer Overall Distribution

Intermittent Stream

Note: Wildlife Data Presented On This Map Derived From Information Services Unit, Montana Fish, Wildlife, and Parks Digitized At A Scale Of 1:250,000. Source Date is 1995

Big Game Distribution
Proposed Game Farm EA
Raaum's Big Horn Ranch
Culbertson, Montana
FIGURE 3

ENVIRONMENTAL CONSEQUENCES

Only resources that have potential adverse effects from the Proposed Action are summarized in this section. A detailed discussion of environmental consequences is contained in *Part II* of this EA.

LAND RESOURCES

Impacts to land resources associated with the Proposed Action are expected to be minor if a reasonable stocking rate is used. In the 15-acre area along Day Creek, erosion would be expected to be slight. The expansion area has the highest risk of erosion due to steep slopes above the coulees. Erosion could be expected to increase on some of the steeper slopes, especially those which currently have little vegetation, if the elk traverse or use the slopes on a regular basis.

Excessive soil compaction may also occur in concentration areas used for winter feeding. Soil compaction coupled with high densities of animals can result in the typical bare ground condition common to feed lot situations.

WATER RESOURCES

Increased runoff and erosion could occur on some of the steeper slopes in the 100-acre area, especially where elk would frequently travel. Impacts would be minor and limited to the area within and immediately surrounding the game farm site. Some banks of Day Creek within the 15-acre portion of the game farm could experience increased erosion. Nutrient-enriched water from elk fecal matter may locally affect groundwater and/or surface water runoff during major precipitation events and snowmelt. However, the soil cover and depth to groundwater would minimize potential groundwater impacts, and surface water runoff would not reach any perennial water bodies.

VEGETATION RESOURCES

The proposed game farm would alter both the overstory and understory plant communities within the 15-acre bottomland enclosure, and there would be some minor changes within the 100-acre riverbreaks rangeland pasture. Overall, the alteration of these plant communities is relatively insignificant due to the limited size of the proposed game farm.

Intensive grazing and browsing by elk is expected to alter the species composition of the herbaceous layer and prevent reproduction of trees and shrubs. The herbaceous layer would also be more prone to noxious weed invasion. The elk would likely eat the bark off the chokecherry trees within a few years and even the large elm and ash trees may be slowly killed by elk chewing on the bark. Similar trends would be expected with the few small stands of green ash within the 100-acre proposed expansion area. However, stocking density (2.5 - 2.9 acres/adult elk) within the 100-acre expansion area would not result in loss of vegetative cover. Blue grama would likely increase in abundance under intensive grazing and plants such as western wheatgrass and silver sagebrush would be expected to decrease.

The overall stocking rate of 2.9 acres per adult elk is likely to exceed the productive potential of the two enclosures. An estimated 45,000 pounds, and 50,000 pounds of forage may be produced within the bottomland and riverbreaks rangeland enclosures, respectively, during an average year (95,000 pounds total). Over an extended period, productivity of this site would be expected to decrease due to intensive grazing and browsing by domestic elk. Approximately 160,600 pounds of forage would be required to sustain 40 adult elk for one year. Under proper grazing management (50% forage utilization), the proposed game farm would yield only about 47,500 pounds of forage. Supplemental feed for the elk would be required during a considerable portion of the year.

The proposed game farm site contains very few noxious weeds and is currently dominated by native vegetation or tame pasture grasses purposely planted in this area. Kochia was common within the bottomland enclosure but this plant would be grazed by elk and it is not expected to increase in abundance. Under the stocking densities proposed for this game farm, it is possible that some areas of bare soil may develop on steeper slopes in the riverbreaks rangeland portion and provide increased opportunity for the establishment of weeds.

WILDLIFE RESOURCES

The proposed game farm would exclude wild deer from approximately 15 acres of bottomland and river breaks habitat. This habitat is widely distributed along the Missouri River and the loss of 115 acres of suitable deer habitat would not be a significant loss. The 115-acre enclosure may alter local movement of some individual wild deer, forcing them to reroute their daily movement around the exterior enclosure fence. However, the proposed game farm is sufficiently small that it would have minimal affect. In addition, the bottomland portion of the proposed game farm would block only the western side of the Day Creek bottomlands. White-tailed deer would be able to travel unobstructed along the eastern half of the bottomlands. The proposed game farm does not extend entirely to upland prairie and there would be an unobstructed corridor of breaks habitat on the western side of Day Creek available for mule deer to travel through while circumnavigating the proposed enclosure.

Over the long-term, elk would be expected to kill many of the deciduous trees in the 15-acre bottomland portion of the proposed game farm and there would be a minor loss of habitat for neotropical migrant bird species and wild turkeys. However, the loss of potential turkey roost trees would be partially compensated by the presence of unutilized feed provided to elk.

There is an undetermined potential of domestic elk carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis or meningeal worm, and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk, or other wildlife. It is also possible that diseases and parasites carried by wild elk could be introduced to domestic elk with equally severe impacts. Ingress of wild elk or deer would likely result in destruction of the trespassing animals. Spread of a contagious wildlife disease may directly or indirectly (depending upon the nature of the disease) effect the human environment by reducing the number of wild deer and elk available for hunting or exposing hunters to diseases that are contagious to humans as well. Although release of a contagious disease in the wild could severely impact native wildlife populations, the risk of disease transmission from domestic elk to wild elk is very low and can be minimized by routine disease surveillance of the herd.

CUMULATIVE EFFECTS

The Proposed Action would not result in potential impacts that are individually minor but cumulatively considerable. Cumulative effects from past, present and reasonably foreseeable activities in all resource areas would be similar to those described for the Proposed Action.

EA CONCLUSION

MEPA and game farm statutes require FWP to conduct an environmental analysis for game farm licensing as described in the Introduction of this Summary. FWP prepares EAs to determine whether a project would have a significant effect on the environment. If FWP determines that a project would have a significant impact that could not be mitigated to less than significant, the FWP would prepare a more detailed EIS before making a decision.

Based on the criteria evaluated in this EA, an EIS would not be required for the Raaums Big Horn Ranch game farm. The appropriate level of analysis for the Proposed Action is a mitigated EA because all impacts of the Proposed Action have been accurately identified in the EA, and all identified significant impacts would be mitigated to minor or none.

MITIGATION MEASURES

The Proposed Action includes several measures to mitigate potential problems in providing a game-proof fence at the game farm site, as described below:

- Fence height would be increased to 9 feet at locations where the perimeter fence crosses steep (30 degree) slopes. These areas include approximately 1,700 feet along the west perimeter where the fence crosses several steep coulees and approximately 700 feet along the south perimeter where the fence crosses steep slopes.

- Tree limbs overhanging the perimeter fence would be removed to reduce the probability of fence damage during periods of high winds.

- Snow removal would be performed along the perimeter fence during severe winters if the height of the fence above the compacted snow level becomes sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access to supplemental feed provided the game farm animals.

FWP would require stipulations to mitigate all potentially significant impacts resulting from the Proposed Action. Potential minor impacts from the Proposed Action are addressed as mitigation measures that are strongly recommended to remain in compliance with state and federal environmental laws, but not required.

REQUIRED STIPULATIONS

The following stipulation is designed to mitigate significant impacts identified in the EA to below the level of significance:

(a) *Report the ingress of any wild game animals or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress was achieved.*

This stipulation is imposed to mitigate potentially significant risk to wildlife health posed by the proposed game farm. Risk to wildlife health from contact between game farm animals and wild game is potentially significant due to the following factors:

- the site would be located in an area currently utilized by wild game; and

- fencing would cross steep terrain, increasing the risk of wild deer jumping the fence.

The information provided by the above stipulation would help both the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. This stipulation, in addition to existing FWP fencing and wildlife protection requirements, would effectively reduce the risk to wildlife health to below significant.

RECOMMENDED MITIGATION MEASURES:

The following mitigation measures address minor impacts identified in the EA that are likely to result from the Proposed Action.

Land Resources

Maintain a reasonable stocking rate within the game farm enclosures to minimize changes in soil structure, minimize potential increases in runoff and minimize water and wind erosion from disturbed ground. The density of animals appropriate to maintain vegetative cover in pasture condition that minimizes soil erosion from major precipitation events and snowmelt. The methodology for determining reasonable stocking rate is presented under the evaluation for *Vegetation Resources*, in the Checklist EA of this document.

Air Resources

Employ the following mitigation measures to reduce odor problems if they occur:

- Create a buffer zone between waste management areas and neighbors considering wind direction and timing when moving waste.
- If waste is land-applied, incorporate waste into soil quickly by plowing or discing and spread waste during cool weather or in the morning during warm, dry weather.
- Carcasses of animals buried on the game farm must be covered with a minimum of 2 feet of soil and must be buried at a distance greater than 200 feet from a highway. Carcasses may also be sent to a licensed municipal landfill if approved by the landfill operator. Carcasses can not be disposed of in water bodies, roads, or ditches.

Water Resources

The following management practices are recommended to minimize the risk of discharging pollutants to state water:

- Maintain a reasonable stocking rate for elk in the proposed game farm area to mitigate potential impacts from erosion and fecal matter. Potential water quality impacts also could be minimized by disposing dead animals and excess fecal material at a site that is isolated from surface water and groundwater (disposal must meet county regulations for solid waste).
- Control surface water runoff discharges from the game farm site, if they occur, by employing best management practices (BMPs) along the Day Creek channel where surface water could enter the drainage. The BMPs may include earth berms, straw bale dikes, vegetative buffer zones, and/or silt fences.

Vegetation Resources

Effects on vegetation from the Proposed Action can be mitigated by using the following measures:

- Supplemental feed should be provided to the elk to reduce the probability of overgrazing the herbaceous layer.
- Areas around large deciduous trees should be fenced to prevent elk from damaging the trees and to provide opportunities for sapling trees to become established.

Fish and Wildlife Resources

The following standard game farm management practices would help to minimize impacts to free ranging wildlife species.

- Store hay, feed, and salt away from exterior fences or enclose in buildings.
- Feed game farm animals at interior portions of the enclosure and not along the perimeter fence.
- Remove dead animals, excess fecal material, and waste feed from the game farm and deposit at an approved site not likely to be used by humans, domestic animals, and wild animals.
- Inspect exterior game farm fence on a regular basis and immediately after events likely to damage fence to ensure its integrity with respect to frost-heaving, corrosion, burrowing animals, predators, and other game animals.
- Risk of disease epidemic or heavy parasite infections among domestic elk can be minimized by maintaining a reasonable domestic elk stocking rate in relation to the enclosure size, and management of manure in accordance with the Montana Department of Environmental Quality guidance document *Guide to Animal Waste Management and Water Quality Protection in Montana* (1996).

Cultural Resources

Mitigate impacts to cultural resources by stopping work in the area of any observed archeological artifact. Report discovery of historical objects to:

Montana Historical Society
Historic Preservation Office
1410 8th Avenue; P.O. Box 201202
Helena, Montana 59620
(406) 444-7715.

If work stoppage in the area containing observed artifacts is not possible, record the location and position of each object, take pictures and preserve the artifact(s).

ENVIRONMENTAL ASSESSMENT CHECKLIST

PART I. GAME FARM LICENSE APPLICATION

Montana Fish, Wildlife & Park's authority to regulate game farms is contained in sections 87-4-406 through 87-4-424, MCA and ARM 12.6.1501 through 12.6.1519.

1. **Name of Project:** Raaums Big Horn Ranch Game Farm

   Date of Acceptance of Completed Application: October 10, 1997

2. **Name, Address and Phone Number of Applicant(s):**

   Terril Raaum
   Box 454
   Culbertson, Montana 59218
   (406) 787-5794

3. **If Applicable:**

   Estimated Construction/Commencement Date: September 5, 1997
   1998 for 100-acre expansion

   Estimated Completion Date: October, 1997

   Is this an application for expansion of existing facility or is a future expansion contemplated?

   This is an application for a new facility and includes a future 100-acre expansion.

4. **Location Affected by Proposed Action (county, range and township):**

   Richland County
   East ½ of Section 22, Township 27 North, Range 56 East

5. **Project Size:** Estimate the number of acres that would be directly affected that are currently:

   (a) Developed:
   residential.....0 acres
   industrial.....0 acres

   (b) Open Space/Woodlands/Areas....0 acres

   (c) Wetlands/Riparian Areas..... 0 acres

   (d) Floodplain...0 acres

   (e) Productive:
   irrigated cropland.0 acres
   dry cropland.....0 acres
   forestry.....15 acres
   rangeland.....100 acres
   other.....0 acres

6. **Map/site plan:**

The following maps are included in the introductory summary of this EA:

Figure 1: Site Map Showing Land Ownership
Figure 2: Site Map Showing Land Use and Land Cover
Figure 3: Site Map Showing Big Game Distribution

7. **Narrative Summary of the Proposed Action or Project including the Benefits and Purpose of the Proposed Action:**

The FWP received a completed application October 10, 1997 to develop a new game farm referred to as the Raaums Big Horn Ranch game farm. The proposed game farm is located approximately 5 miles south of Culbertson, in Richland County, Montana (**Figure 1**). The Proposed Action consists of placing up to 60 elk on 115 acres. The game farm would be constructed in two phases with an initial 15 acre enclosure and subsequent 100 acre expansion. The game farm expansion is planned for 1998. A quarantine facility would be constructed within the initial enclosure. The applicant would breed, sell, and dispose of domestic elk in accordance with Montana game farm and disease control requirements stipulated in Montana statute and administrative rules.

The applicant proposes to provide a perimeter fence consisting of 8-foot high, 6-inch mesh, high-tensile big game fencing; supported by 12-foot long, 3-inch diameter steel posts set 3.5 feet into the soil and spaced at 24-foot intervals (old power poles may be used instead of steel pipe in some areas). All exterior gates will be constructed using 2-inch diameter structural metal tubing, 8 feet high, and reinforced with cattle paneling. Gates will have a double latch and single chain lock.

The Proposed Action includes several measures to mitigate potential problems in providing a game-proof fence at the game farm site. Fence height would be increased to 9 feet to prohibit ingress/egress in locations where the perimeter fence crosses steep (30 degree) slopes. These areas include approximately 1,700 feet along the west perimeter where the fence crosses several steep coulees and approximately 700 feet along the south perimeter where the fence crosses steep slopes. In addition, tree limbs overhanging the perimeter fence would be removed to reduce the probability of fence damage during periods of high winds. Finally, snow removal would be performed along the perimeter fence during severe winters if the height of the fence above the compacted snow level becomes sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access to supplemental feed provided the game farm animals.

The proposed game farm property is owned by Mr. Terril Raaum. Mr. Raaum has operated a cattle ranch for 30 years and has successfully managed the wild deer population on his property. The applicant or his relatives would live adjacent to the proposed game farm. The game farm would be a commercial enterprise involved in meat production, trophy sales and antler production, as well as to provide elk breeding stock to the game farm market.

8. **Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction:**

(a) Permits:

Agency Name	Permit	Approval Date and Number
Department of Livestock	approval of quarantine and handling facility	Pending

(b) Funding:

Agency Name	Funding Amount
none	

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	Type of Responsibility
Montana Department of Livestock	disease control
Montana Department of Environmental Quality (DEQ)	water quality, air quality waste management
Montana State Historical Preservation Office (SHPO)	cultural resources
Montana Department of Natural Resources and Conservation (DNRC)	water rights
Natural Resource Conservation Service (NRCS)	soil conservation
Richland County Weed Control District	weed control

9. List of Agencies Consulted During Preparation of the EA:

Montana Department of Livestock

Montana Department of Environmental Quality

Montana State Historical Preservation Office

Montana Bureau of Mines and Geology

Montana Department of Natural Resources and Conservation

U.S. Department of Agriculture, Natural Resource Conservation Service

REFERENCES:

Raaum. 1997. Application For A New Game Farm completed October 10, 1997; Raaum Big Horn Ranch, Box 454, Culbertson, Montana.

PART II. ENVIRONMENTAL REVIEW

This section of the EA presents results of an environmental review of the Proposed Action. The assessment evaluated direct and indirect impacts and cumulative effects of the Proposed Action on the following resources of the physical environment: land, air, water, vegetation, fish and wildlife; and the following concerns of the human environment: noise, land use, human health risk, community impacts, public services and taxes, aesthetics and recreation, and cultural and historical resources. Impacts were determined to fall in one of four categories: unknown, none, minor and significant. For the purposes of this EA, and in accordance with ARM 12.2.429 through 12.2. 431, these terms are defined as follows:

EA DEFINITIONS

Cumulative Effects: The collective impacts on the human environment of the Proposed Action when considered in conjunction with other past and present actions related to the Proposed Action by location or generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impacts statement evaluation, or permit processing procedures.

Unknown Impacts: Information is not available to facilitate a reasonable prediction of potential impacts.

Significant Impacts: A determination of significance of an impact in this EA is based on individual and cumulative impacts from the Proposed Action. If the Proposed Action results in significant impacts that can not be effectively mitigated, FWP must prepare an EIS. The following criteria are considered in determining the significance of each impact on the quality of the human environment:

- severity, duration, geographic extent and frequency of occurrence of the impact;
- probability that the impact would occur if the Proposed Action occurs;
- growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative effects;
- quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources or values;
- importance to the state and to society of each environmental resource or value that would be affected;
- any precedent that would be set as a result of an impact of the Proposed Action that would commit FWP to future actions with significant impacts or a decision in principle about such future actions; and
- potential conflict with local, state, or federal laws, requirements, or formal plans.

Reasonable Stocking Rate: The density of animals appropriate to maintain vegetative cover in pasture condition that minimizes soil erosion from major precipitation events and snowmelt. The methodology for determining reasonable stocking rate is presented under the evaluation for *Vegetation Resources*, in the Checklist EA of this document.

PHYSICAL ENVIRONMENT

1. LAND RESOURCES Would the Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Soil instability or changes in geologic substructure?						
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?					Yes	1(b)
c. Destruction, covering or modification of any unique geologic or physical features?						
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?						

AFFECTED ENVIRONMENT:

The proposed Raaums Big Horn Ranch game farm is located about 5 miles south of Culbertson in Richland County, Montana. The land included in the proposed game is divided into two acreage blocks, an initial 15-acre enclosure and an expansion area consisting of 100 acres. The 15-acre initial area is situated in the Day Creek valley bottom at an elevation of about 2,020 feet above mean sea level. The expansion area is located west of Day Creek in grass and shrub covered hills dissected by coulees. The ridgetops along the western expansion boundary are about 200 feet higher in elevation than Day Creek. Outcrops of soft sedimentary beds appear on the ridgetops and steep sides of the coulees. Existing land use is primarily livestock grazing and hay production.

Bedrock geology of the area is mapped as the Tongue River Member of the Fort Union Formation, composed of sandstones, siltstones, and shales of early Tertiary (Paleocene) age (U.S. Geological Survey 1955). Soils formed on these rocks are generally calcareous, weakly developed, and free of coarse fragments, except some subsoils which contain fragments of weakly weathered shale (Veseth and Montagne 1980).

The U.S. Soil Conservation Service (1980) has mapped four primary soil units on the Raaums property. The 15 acres on the Day Creek valley floor are mapped as the Cherry silty clay loam. Soils in the Cherry Series form in alluvium along streams and are primarily composed of deep, well-drained, silty clay loams. Runoff on these soils is slow and the hazard of erosion is slight. In the expansion area, the Lambert-Dimyaw complex, Lambert-Ringling complex, and Lambert silt loam soil map units are present (U.S. Soil Conservation Service 1980).

The Lambert-Dimyaw complex is present on about 20 acres in the northern portion of the expansion area. These soils are primarily silt loams and silty clay loams that form on hilly to very steep slopes (15 to 65%). Runoff is very rapid on these soils and the hazard of erosion is high. Soils that belong to the Dimyaw Series have a high shrink-swell potential due to a higher clay content.

The Lambert-Ringling complex is present on about 50 acres, primarily in the southern half of the expansion area. These soils form on hilly to very steep slopes (15 to 65%) and are primarily deep silt loams or channery and gravelly loams. The channery and gravelly loams belong to the Ringling Series and are present on the ridges and knobs. Coarse fragments are composed of shale. These soils are mildly to moderately alkaline, runoff is very rapid, and the hazard of erosion is high.

The Lambert silt loam is present on the remaining 30 acres in the expansion area. These soils form on strongly sloping (8 to 15%) side slopes and crests of ridges and hills. Areas of severely eroded soil are common, runoff is medium to rapid, and the hazard of erosion is high.

PROPOSED ACTION:

1(b) Impacts to land resources associated with the Proposed Action are expected to be minor if a reasonable stocking rate is used. In the 15 acre area along Day Creek, erosion would be expected to be slight. The expansion area has the highest risk of erosion due to the steep slopes above the coulees. Erosion could be expected to increase on some of the steeper slopes, especially those slopes which currently have little vegetation, if the elk traverse or use the slopes on a regular basis.

Excessive soil compaction may also occur in concentration areas used for winter feeding. Soil compaction coupled with high densities of animals can result in the typical bare ground condition common to feed lot situations.

NO ACTION:

The No Action Alternative would not affect the current condition of the property if the owners continue to use the property for grazing and hay production. If future uses included an increase in the level of livestock grazing, the No Action Alternative could have similar impacts to land resources as the Proposed Action.

CUMULATIVE EFFECTS:

As this area is currently used for agricultural production, the cumulative effect of using the proposed area as a game farm is negligible. The proposed game farm does not contain any unique or significant soil or land resources.

COMMENTS:

Required Stipulations: None

Recommended Mitigation Measures:

Maintain a reasonable stocking rate within the game farm enclosures to minimize changes in soil structure, minimize potential increases in runoff and minimize water and wind erosion from disturbed ground.

REFERENCES:

U.S. Department of Agriculture, Soil Conservation Service. 1980. Soil Survey of Richland County, Montana. Prepared in cooperation with the Montana Agricultural Experiment Station. 71 pages with maps and plates.

U.S. Geologic Survey and Montana Bureau of Mines and Geology, 1955. Geologic Map of Montana, 1:500,000.

Veseth, Roger and Clifford Montagne. 1980. Geologic Parent Materials of Montana Soils. Montana Agricultural Experiment Station, Bulletin 721, Montana State University, Bozeman, and USDA Soil Conservation Service, Bozeman, Montana, November. 115 pages.

PHYSICAL ENVIRONMENT

2. AIR Would the Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Emission of air pollutants or deterioration of ambient air quality?					Yes	2(a)
b. Creation of objectionable odors?					Yes	2(b)
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?						
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?						

AFFECTED ENVIRONMENT:

The proposed game farm site is located in northeastern Montana and is accessed from a dirt road. The site vicinity is sparsely populated with no apparent air quality problems and is not classified for air quality attainment status (DEQ 1997).

PROPOSED ACTION:

2(a) Impacts to air quality from fence construction and road use may result in short-term minor increases in particulate matter in ambient air.

2(b) Odor problems may result from waste management practices in areas where elk concentrate to feed. There are no residents within a 1-mile radius of the proposed game farm.

NO ACTION:

No impacts to air quality are expected to result from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Dust and odor are not expected to be of significant concern at the proposed game farm site due to the sparse population in this area. If dust and/or odor problems arise, mitigation measures can be implemented.

Required Stipulations: None.

Recommended Mitigation Measures:

- Dust management activities include spraying water on unpaved roads during the dry season, vegetating exposed ground where possible, protecting fill piles from wind erosion, and limiting ground disturbance to only the area necessary to complete the job.

- Employ the following best management practices (BMPs) to reduce odor problems if they occur: (1) if waste is land-applied, incorporate waste into soil quickly by plowing or discing; (2) spread waste during cool weather or in the morning during warm, dry weather; and (3) cover buried animal carcasses on the game farm with a minimum of 2 feet of soil; carcasses may also be sent to a licensed municipal landfill if approved by the landfill operator; carcasses should not be disposed of in or adjacent to water bodies, roads, and ditches. These and other BMPs are described in "Guide to Animal Waste Management and Water Quality Protection in Montana" (DEQ 1996).

REFERENCES:

Montana Department of Environmental Quality (DEQ), 1997. Montana Air Quality Non-Attainment Areas. Revised January, 1997.

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

PHYSICAL ENVIRONMENT

3. WATER Would the Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?					Yes	3(a)
b. Changes in drainage patterns or the rate and amount of surface runoff?						
c. Alteration of the course or magnitude of flood water or other flows?						
d. Changes in the amount of surface water in any water body or creation of a new water body?						
e. Exposure of people or property to water related hazards such as flooding?						
f. Changes in the quality of groundwater?					Yes	3(f)
g. Changes in the quantity of groundwater?						
h. Increase in risk of contamination of surface or groundwater?					Yes	3(f)
i. Violation of the Montana non-degradation statute?						
j. Effects on any existing water right or reservation?						
k. Effects on other water users as a result of any alteration in surface or groundwater quality?						
l. Effects on other water users as a result of any alteration in surface or groundwater quantity?						

AFFECTED ENVIRONMENT:

The 115-acre proposed Raaums Big Horn Ranch game farm area is located in the Day Creek drainage that extends northward approximately 3 miles to the Missouri River (**Figure 1**). The Day Creek channel enters the southeast corner of the 15-acre portion of the game farm site through a culvert and extends north near the east side of the perimeter fence. This 15-acre area is relatively flat bottomland that could be exposed to flood water during extreme runoff events. Day Creek is ephemeral, flowing only in response to significant precipitation events and/or snowmelt runoff. The remaining 100-acre portion of the proposed game farm is located on east-facing hills and coulees that are part of the Day Creek drainage basin. Several small ephemeral channels exist in the coulees, draining eastward toward the center of the basin.

The Missouri River is the nearest perennial stream/river to the proposed game farm. During periods of surface water flow in Day Creek, the water apparently does not ultimately reach the Missouri River as surface flow. The water infiltrates into the flat floodplain deposits beginning approximately 1 mile south of the river. The 15-acre bottomland portion of the game farm site is underlain by unconsolidated sediments deposited from the creek and surrounding hillside erosion. The remaining 100-acre game farm area is underlain by the Tongue River Member of the Fort Union Formation, composed of sandstone, siltstone, and shale (U.S. Geological Survey 1955). Outcrops of sedimentary rocks appear on the

ridgetops and steep sides of the coulees. Runoff is very rapid on soils in the game farm area and the hazard of erosion is high (see *Land Resources* section).

No springs, seeps, ponds, or wetlands were identified in the proposed game farm area. Several private wells are located approximately in the vicinity of the game farm site in Sections 22 and 23, T27N, R56E. Nine wells listed in the Montana Bureau of Mines and Geology (MBMG 1997) database are located within approximately 1 mile of the game farm site; eight of these wells are designated for stockwater and one well is for domestic purposes. Total depth of the wells ranges from about 70 to 200 feet below ground surface (MBMG 1997). Depth to water is not reported for these wells; however, one well has a pumping level of 28 feet (MBMG 1997). All wells likely obtain water from bedrock sources. The applicant proposes to utilize a groundwater supply well to provide water for the domestic elk with underground piping, frost-free hydrants, and year-round tanks. The well is located approximately ½-mile east of the proposed game farm site.

PROPOSED ACTION:

3(a) Increased runoff and erosion could be expected on some of the steeper slopes in the 100-acre area, especially where elk traverse or use the slopes on a regular basis. Increased erosion and runoff from most of the 15-acre area likely would not occur because the site is used for cattle grazing; however, banks of the Day Creek channel could experience some increased erosion.

If vegetative cover is reduced significantly, the game farm operation could meet the definition of an "animal feeding operation" (ARM 17.30.1304(3)). If water containment structures are needed on the project site to control runoff and do not have the capacity for the 25-year, 24-hour storm, a "concentrated animal feeding operations" (CAFO) permit must be obtained to permit the discharge. A CAFO permit, however, is not expected to be required for the proposed Raaums game farm operation.

3(f) Domestic elk fecal matter and nutrient-enriched water could have a minor effect on the quality of groundwater and/or surface water in the vicinity of the game farm, primarily during periods of snowmelt and major precipitation events. The soil horizons and depth to groundwater, however, would likely prevent any detectable effects on groundwater in the area, and surface water runoff from the game farm site would not reach any perennial water bodies.

NO ACTION:

Current hydrologic conditions are not expected to change under the No Action Alternative.

CUMULATIVE EFFECTS:

The general area is used for cattle grazing and hay fields. Therefore, the cumulative effect of using the 115-acre site for a game farm would not cause any cumulative effects on water resources.

COMMENTS:

Due to potential minor impacts identified above from increased erosion, runoff, and elk fecal matter, several mitigation measures are recommended. Other water quality protection practices may be required by DEQ if it is determined that a CAFO permit is necessary. Refer to "Guide to Animal Waste Management and Water Quality Protection in Montana" (DEQ 1996) and "Common Sense and Water Quality, A Handbook for Livestock Producers" (Montana Department of Health and Environmental Sciences, 1994) for further information on mitigation measures and CAFO permits. The following management practices are recommended to minimize the risk of discharging pollutants to state water.

Required Stipulations: None.

Recommended Mitigation Measures:

- Maintain a reasonable stocking rate in the proposed game farm area to mitigate potential impacts from erosion and fecal matter. Potential water quality impacts also could be minimized by disposing dead animals and excess fecal material at a site that is isolated from surface water and groundwater (disposal must meet county regulations for solid waste).

- Control surface water runoff discharges from the game farm site, if they occur, by employing best management practices (BMPs) along the Day Creek channel where surface water could enter the drainage. The BMPs may include an earth berms, straw bale dikes, vegetative buffer zones, and/or silt fences.

REFERENCES:

Montana Bureau of Mines and Geology (MBMG), 1997. Computer File Search of Driller's Well Logs. Butte MBMG office. November 1997.

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

Montana Department of Health and Environmental Sciences (DHES), 1994. Common Sense and Water Quality, A Handbook for Livestock Producers. Water Quality Division. Helena, MT.

U.S. Geologic Survey and Montana Bureau of Mines and Geology, 1955. Geologic Map of Montana, 1:500,000.

PHYSICAL ENVIRONMENT

4. VEGETATION Would the Proposed Action result in:	POTENTIAL IMPACT UNKNOWN	NONE	MINOR	SIGNIFICANT	CAN IMPACT BE MITIGATED	COMMENT INDEX
a. Changes in the diversity, productivity or abundance of plant species?					Yes	4(a)
b. Alteration of a plant community?					Yes	4(b)
c. Adverse effects on any unique, rare, threatened, or endangered species?						
d. Reduction in acreage or productivity of any agricultural land?						
e. Establishment or spread of noxious weeds?					Yes	4(e)

AFFECTED ENVIRONMENT:

The proposed game farm is located on the bottomlands and adjacent breaks of Day Creek. The proposed game farm is primarily comprised of an open riparian deciduous forest (15 acres) and riverbreaks rangeland habitat. The bottomland forest is dominated by American elm, green ash, box elder, and chokecherry. The herbaceous layer is comprised of smooth brome and kochia. This bottomland habitat will produces in an average year approximately 3,000 pounds of hay per acre (Raaum 1997). However, grass and forb production under the forest canopy would be expected to be less than this figure.

The riverbreaks rangeland habitat is dominated by the blue grama/western wheatgrass habitat type. In addition to these two grass species other common plants include silver sagebrush and rabbitbrush in the coulee bottoms, and Rocky mountain juniper, horizonal juniper, yucca and little bluestem on steeper slopes. Productivity in this portion of the proposed enclosure is estimated to average about 500 pounds per acre. Coulees within the proposed 100-acre enclosure also contain small isolated stands of green ash.

PROPOSED ACTION:

4(a) The proposed game farm would require that portions of large trees and branches overhanging the enclosure fence be removed before elk are released into the enclosure. This would reduce the risk of a large tree or limb falling on the fence. However, it should be noted that the enclosure fence is reinforced with steel cable, the 3-inch steel fence posts are set in concrete, and the fence should be able to withstand a considerable impact should a tree fall on it.

Intensive grazing and browsing by elk would be expected to alter the species composition of the herbaceous layer and prevent reproduction of trees and shrubs. The herbaceous layer would also be more prone to noxious weed invasion. The elk would likely eat the bark off the chokecherry trees and even the large elm and ash trees may be slowly killed by elk chewing on the bark. Similar trends would be expected with the few small stands of green ash within the 100-acre proposed expansion area. However, stocking density (2.5 - 2.9 acres/adult elk) within the 100-acre expansion area would not result in loss of vegetative cover. Blue grama would likely increase in abundance under intensive grazing and plants such as western wheatgrass and silver sagebrush would be expected to decrease.

4(b) The proposed game farm would alter both the overstory and understory plant communities within the 15-acre bottomland enclosure, and there would be some minor changes within the 100-acre riverbreaks rangeland pasture. Overall, alteration of these plant communities would be relatively insignificant due to the limited size of the proposed game farm.

The overall stocking rate of 2.9 acres per adult elk is likely to exceed the productive potential of the two enclosures. An estimated 45,000 pounds, and 50,000 pounds of forage may be produced within the bottomland and riverbreaks rangeland enclosures, respectively during an average year (95,000 pounds total). Over an extended period, productivity of this site would be expected to decrease due to intensive grazing and browsing by domestic elk. Approximately 160,600 pounds of forage would be required to sustain 40 adult elk for one year. Under proper grazing management (50% forage utilization), the proposed game farm would yield only about 47,500 pounds of forage. Supplemental feed for the elk would be required during a considerable portion of the year.

4(e) The proposed game farm site contains very few noxious weeds and is currently dominated by native vegetation or tame pasture grasses purposely planted in this area. Kochia was common within the bottomland enclosure but this plant would be grazed by elk and it is not expected to increase in abundance. Under the intensive stocking densities proposed for this game farm, it is possible that some areas of bare soil may develop on steeper slopes in the riverbreaks rangeland portion and provide increased opportunity for establishment of weeds.

NO ACTION:

The No Action Alternative would likely result in the continuation of the present management. Cattle would be grazed on the pastureland and woodland.

CUMULATIVE EFFECTS:

Utilization of this 115-acre site for a game farm would not significantly change agricultural production in this area.

COMMENTS:

Required Stipulations: None

Recommended Mitigation Measures:

- Supplemental feed should be provided to the elk to reduce the probability of overgrazing the herbaceous layer.

- Areas around large deciduous trees might be fenced to prevent elk from damaging the trees and to provide opportunities for sapling trees to become established.

REFERENCES:

Raaum, Terril. 1997. Game Farm Owner. Personal communication with Dr. Craig Knowles, FaunaWest Wildlife Consultants during December 1997.

PHYSICAL ENVIRONMENT

5. FISH/WILDLIFE Would the Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Deterioration of critical fish or wildlife habitat?					Yes	5(a)
b. Changes in the diversity or abundance of game species?					Yes	5(b)
c. Changes in the diversity or abundance of nongame species?					Yes	5(c)
d. Introduction of new species into an area?						
e. Creation of a barrier to the migration or movement of animals?					Yes	5(e)
f. Adverse effects on any unique, rare, threatened, or endangered species?						
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?						
h. Increased risk of contact between game farm animals and wild game?					Yes	5(h)
i. Increased risk to wildlife health from disease?					Yes	5(h)

AFFECTED ENVIRONMENT:

The proposed game farm is located on bottomlands and adjacent rangelands in the Day Creek valley in northeastern Montana. The proposed game farm is comprised of 15 acres of forested bottomland habitat and 100 acres of grassland dominated riverbreaks habitat (**Figure 2**). The proposed game farm site is currently used to pasture cattle, and to hold and feed cattle. The forested habitat along the Day Creek is dominated by American elm, green ash, and box elder and is suitable habitat for many common neotropical migrant bird species. The rangeland is dominated by blue grama and western wheatgrass, and is capable of providing habitat to prairie wildlife species characteristic of this area. The proposed game farm is located about 3 miles south of the Missouri River. The Missouri River in this section is free flowing and contains extensive bottomland habitat.

The proposed game farm is situated within year-long low density white-tailed deer and mule deer habitat (**Figure 3**). The mule deer in this area are associated with the broken upland areas and the white-tailed deer are associated with the forested bottomland habitat. Better deer habitat occurs along the Missouri River bottomland and adjacent breaks to the north of the proposed game farm (R. Mule', pers. commun.). The forested bottomlands along Day Creek are narrow and they tend to be discontinuous due to farming of the bottomlands for hay and small grain crops. There are no areas of concentrated winter deer use on or near the proposed game farm (Mule', pers. commun.). Pronghorn antelope occur in the surrounding upland prairies and a small herd occasionally uses the Day Creek bottomlands, but the proposed game farm does not include habitat that is normally used by pronghorns (Mule', pers. commun.). Ring-necked pheasants and Merriam's wild turkeys occur along the Day Creek bottomlands.

Bald eagles (a Federally listed threatened species) stage along the Missouri River below Fort Peck dam during spring and fall migratory periods (Mule', pers. commun.). Bald eagles are not known to nest in the game farm vicinity and the proposed game farm is located sufficiently far from the Missouri River that it will not influence the daily activity of eagles. The proposed game farm is located within the migratory

corridor of whooping cranes (endangered), and peregrine falcons (endangered) may also be migratory through this area. The occurrence of elk, black bears, mountain lions and gray wolves (threatened) in this area is limited to the chance of an occasional transient individual passing through this area. There are no other Federally listed threatened and endangered species expect to occur in this area.

PROPOSED ACTION:

5(a) The Proposed Action plans to place up to 40 adult and 20 calf domestic elk on approximately 115 acres of land. Elk would initially be placed within a 15-acre enclosure on the bottomland portion of the proposed game farm and would later be introduced to a 100-acre upland pasture as a second phase to this project. When completed, wild deer would be excluded from approximately 15 acres of bottomland and river breaks habitat. This habitat is widely distributed along the Missouri River and the loss of 115 acres of suitable deer habitat would not be a significant loss.

Some nutrient enriched water runoff (effluence) during snow melt and major storm events is expected to occur at the bottomland area where elk might be fed and handled. This area is currently used for similar purposes with cattle and there would be no net increase in nutrient enriched runoff over the existing conditions. In addition, Day Creek contains only ephemeral flow and does not support an aquatic ecosystem. Flow that does occur in Day Creek is not expected to reach the Missouri River. There would be no expected impacts to aquatic systems in this area resulting from the proposed game farm operation.

5(b) There is a possibility that wild deer may enter the enclosure especially during periods of drifted snow or deep snow accumulation in the winter. Wild ungulates exposed to domestic elk would likely be destroyed rather than released back to the wild. This may affect individuals but not populations. Pheasants and turkeys also occur in the Day Creek drainage and surrounding area, and there is a risk that birds flushed by predators or human activity might accidently fly into the proposed game farm fence and be fatally injured. This may affect individuals but not populations.

5(c) Over the long-term, elk would be expected to kill many of the deciduous trees in the 15-acre bottomland portion of the proposed game farm. Elk would also prevent successful tree reproduction. There would be a minor loss of habitat for neotropical migrant bird species and wild turkeys. However, the loss of potential turkey roost trees would be partially compensated by the presence of unutilized feed provided to elk.

5(e) The 115-acre enclosure may alter local movement of some individual wild deer, forcing them to reroute their daily movement around the exterior enclosure fence. However, the proposed game farm is sufficiently small that it would have minimal affect. In addition, the bottomland portion of proposed game farm would block only the western side of the Day Creek bottomlands. White-tailed deer would be able to travel unobstructed along the eastern half the bottomlands. The proposed game farm does not extend entirely to upland prairie and there would be an unobstructed corridor of breaks habitat on the western side of Day Creek available for mule deer to travel through while circumnavigating the proposed enclosure.

5(h) There is an undetermined potential of domestic elk carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis or meningeal worm, and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk, or other wildlife. It is also possible that diseases and parasites carried by wild elk could be introduced to domestic elk with equally severe impacts. Ingress of wild elk or deer would likely result in destruction of the trespassing animals. Spread of a contagious wildlife disease may directly or indirectly (depending upon the nature of the disease) effect the human environment by reducing the number of wild deer and elk available for hunting or exposing hunters to diseases that are contagious to humans as well. Although release of a contagious disease in the wild could severely impact native wildlife populations, the risk of disease transmission from domestic elk to wild elk is very low and can be minimized by routine disease surveillance of the herd.

This analysis assumes that all domestic elk entering the enclosure have been genetically screened or otherwise certified that they do not carry red deer genes. If not, there is a risk that ingress/egress may lead to genetic pollution of the wild elk population.

Brucellosis and tuberculosis are potentially transmittable from elk to cattle and livestock and wildlife. The risk of disease being passed from domestic elk to domestic livestock would be minimal if the fence integrity is maintained and appropriate mitigation measures are followed. The potential for disease transmission to domestic livestock and wildlife from game farm animals can also be mitigated through Department of Livestock disease testing requirements. All animals placed on this game farm would be required to be tested for tuberculosis at the time of import, purchase and/or transportation to the game farm. A test for brucellosis is required for all Cervids that are sold or moved within the state, and is required for all game farm animals imported into Montana. Each game farm is required to have an isolation pen (quarantine facility) on the game farm to isolate any animals that are imported or become ill. The state veterinarian can require additional testing and place herds under strict quarantine should problems arise. Routine brucellosis and tuberculosis testing requirements for game farm animals offer a measure of surveillance that minimizes that risk. Failure to comply with these requirements is grounds for license revocation.

NO ACTION:

No wildlife related impacts are expected to occur under the No Action Alternative. A livestock grazing and farming operation of this area would be expected to continue under the No Action Alternative.

CUMULATIVE EFFECTS:

The fencing of 15 acres of forested bottomlands and 100 acres of rangeland breaks habitat would not result in cumulative impacts to wildlife in this area. Loss of these habitats is not expected to be important because these land types are relatively abundant in this area.

COMMENTS:

The Proposed Action includes several measures to mitigate potential problems in providing a game-proof fence at the game farm site, as described below:

- Fence height would be increased to 9 feet at locations where the perimeter fence crosses steep (30 degree) slopes. These areas include approximately 1,700 feet along the west perimeter where the fence crosses several steep coulees and approximately 700 feet along the south perimeter where the fence crosses steep slopes.

- Tree limbs overhanging the perimeter fence would be removed to reduce the probability of fence damage during periods of high winds.

- Snow removal would be performed along the perimeter fence during severe winters if the height of the fence above the compacted snow level becomes sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access to supplemental feed provided the game farm animals.

One stipulation is required to reduce predicted impacts from ingress/egress. Other mitigation measures are recommended to minimize potential impacts to free-ranging wildlife species.

Required Stipulations:

(a) Report the ingress of any wild game animals or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress was achieved.

The above stipulation is imposed to mitigate risk to wildlife health posed by the proposed game farm. Information required by the stipulation in the event of ingress or egress would help both the applicant and FWP to address ingress/egress and to minimize contact between wild and domestic animals. This stipulation, in addition to existing FWP fencing and wildlife protection requirements, would effectively reduce the risk to wildlife health.

Recommended Mitigation Measures:

The following standard game farm management practices would help to minimize impacts to free ranging wildlife species. Implementation of these practices is highly recommended and should be considered a form of mitigation.

- Store hay, feed, and salt away from exterior fences or enclose in buildings.
- Feed game farm animals at interior portions of the enclosure and not along the perimeter fence.
- Remove dead animals, excess fecal material, and waste feed from the game farm and deposit at an approved site not likely to be used by humans, domestic animals, and wild animals.
- Inspect exterior game farm fence on a regular basis and immediately after events likely to damage fence to ensure its integrity with respect to frost-heaving, corrosion, burrowing animals, predators, and other game animals.
- Risk of disease epidemic or heavy parasite infections among domestic elk can be minimized by maintaining a reasonable domestic elk stocking rate in relation to the enclosure size, and management of manure in accordance with DEQ (1996) guidance.

REFERENCES:

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

Mule', Ray. 1997. FWP Wildlife Biologist. Personal communication with Dr. Craig Knowles, FaunaWest Wildlife Consultants. December, 1997.

HUMAN ENVIRONMENT

6. NOISE EFFECTS Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Increases in existing noise levels?					Yes	6(a)
b. Exposure of people to severe or nuisance noise levels?						

AFFECTED ENVIRONMENT:

Little noise occurs in the general game farm area because of the sparse population and lack of other activities in this area that would generate noise.

PROPOSED ACTION:

6(a) The Proposed Action would result in a minor short-term increase in existing noise levels from fence construction, land clearing, and other activities conducted to develop the game farm. The nearest residence to the proposed game farm, besides the applicant, is located approximately 1.75 miles to the north.

NO ACTION:

No impacts to existing noise levels are expected from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Due to the distance to the nearest residence and overall sparse population in the area, noise generated from the game farm operation should not cause a problem. No mitigations measures are recommended with respect to noise.

HUMAN ENVIRONMENT

7. LAND USE Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?						
b. Conflict with a designated natural area or area of unusual scientific or educational importance?						
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the Proposed Action?						
d. Conflict with any existing land use that would be adversely affected by the Proposed Action?						
e. Adverse effects on or relocation of residences?						

AFFECTED ENVIRONMENT:

The principal land use of the proposed game farm area and vicinity is grass rangeland and cattle pasture (**Figure 2**). The area is not zoned for a specific use (Garfield, 1997) and is currently utilized by wild game.

PROPOSED ACTION:

The proposed game farm would be consistent with existing land uses. The use of the proposed game farm area for an elk farm may increase the value of the land.

NO ACTION:

If the proposed game farm area is not developed, use of the site would likely continue for cattle pasture.

CUMULATIVE EFFECTS:

Land use described in the Proposed Action is consistent with existing land use in the vicinity of the proposed game farm area. Because no proposals or applications for future development in the vicinity of the proposed game farm are currently on file with Richland County, and no past or present activities have adversely affected the game farm area, no potential cumulative effects on land use from the Proposed Action and past, present and reasonably foreseeable actions to land use are anticipated.

COMMENTS:

Because impacts to land use are none to potentially positive, no mitigation measures are recommended.

REFERENCES:

Garfield, Mary. 1997. Richland County Planner. Personal communication with Holly Kuder, Maxim Technologies, November 1997.

HUMAN ENVIRONMENT

8. RISK/HEALTH HAZARDS Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Risk of dispersal of hazardous substances (including, but not limited to chemicals, pathogens, or radiation) in the event of an accident or other forms of disruption?						
b. Creation of any hazard or potential hazard to domestic livestock?					Yes	8(b)
c. Creation of any hazard or potential hazard to human health?					Yes	8(c)

PROPOSED ACTION:

8(b) Brucellosis and tuberculosis are potentially transmittable from elk to cattle and cattle to elk. The risk of disease being passed from domestic elk to domestic livestock would be minimal if the fence integrity is maintained and appropriate mitigation measures are followed. The potential for disease transmission to domestic livestock from game farm animals is also mitigated through Department of Livestock disease testing requirements. All animals placed on this game farm would be required to be tested for tuberculosis at the time of import, purchase and/or transportation to the game farm. A test for brucellosis is required for all Cervids that are sold or moved within the state, and is required for all game farm animals imported into Montana. Each game farm is required to have an isolation pen (quarantine facility) on the game farm to isolate any animals that are imported or become ill. The state veterinarian can require additional testing and place herds under strict quarantine should problems arise.

8(c) If tuberculosis or brucellosis were to be transmitted from domestic elk to wild elk and deer, hunters field dressing wild elk and deer would be subject to some risk of infection. Veterinarians and meat cutters working with diseased game farm animals are at risk of becoming infected with brucellosis or tuberculosis. Risk to human health from diseased animals could be significant. Spread of a contagious wildlife disease may directly or indirectly (depending upon the nature of the disease) effect the human environment by reducing the number of wild deer available for hunting or exposing hunters to diseases that are contagious to humans as well.

NO ACTION:

No impacts or risks would occur from health hazards under the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Required Stipulations: None.

Recommended Mitigation Measures:

The mitigation measures recommended in Section 5 (*Fish/Wildlife*) are applicable to this section. In addition, risk of disease epidemic or heavy parasite infections among domestic elk can be minimized by maintaining a reasonable domestic elk stocking rate in relation to the enclosure size, management of manure in accordance with DEQ (1996) guidance, and adherence to disease testing requirements.

REFERENCES:

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

HUMAN ENVIRONMENT

9. COMMUNITY IMPACT Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?						
b. Alteration of the social structure of a community?						
c. Alteration of the level or distribution of employment or community or personal income?						9(c)
d. Changes in industrial or commercial activity?						
e. Changes in historic or traditional recreational use of an area?						
f. Changes in existing public benefits provided by affected wildlife populations and wildlife habitats (educational, cultural or historic)?						
g. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?						

AFFECTED ENVIRONMENT:

The proposed game farm would be located in a rural area adjacent to rangeland used as cattle pasture. The nearest town to the proposed game farm site is Culbertson, Montana, located approximately 5 miles to the north (**Figure 1**).

PROPOSED ACTION:

9(c) As a result of the distance to the nearest community, no adverse impacts to the community are expected from the proposed game farm. No employees would be hired as a result of the Proposed Action. While the Proposed Action may increase the income level for the applicant and increase taxes paid to the county, these increases would be relatively minor with respect to the community.

NO ACTION:

No adverse impacts to the community would result from the No Action Alternative.

CUMULATIVE EFFECTS:

No adverse impacts to the community are expected to result from the Proposed Action and past, present and reasonably foreseeable activities in the vicinity of the proposed game farm.

COMMENTS:

No mitigation measures are recommended with respect to community impacts.

HUMAN ENVIRONMENT

10. PUBLIC SERVICES & TAXES Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. A need for new or altered government services (specifically an increased regulatory role for FWP and Dept. of Livestock)?					No	10(a)
b. A change in the local or state tax base and revenues?						10(b)
c. A need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?						

PROPOSED ACTION:

10(a) FWP and DoL would be required to have an increased work load associated with the game farm for fence and animal inspections and monitoring. For the Proposed Action, the increase in use of agency resources is expected to cost the State of Montana $7,000 - $9,000 for the initial licensing process, and an additional $1,200 per year for monitoring and administrative activities.

10(b) Placement of elk would increase the annual tax contribution of the proposed game farm, with collected taxes going toward the county general fund and local school district and a per capita tax that goes to the DoL. According to the Richland County Assessor's Office, elk are taxed at the same rate as purebred cattle. Estimated annual taxes due to Richland County from the proposed game farm would be between $6 and $12 per head, depending on the sex of the elk (Dopp 1997). According to DoL, the per capita tax is $12 per head for game farm animals compared to $1.20 per head for cattle (Schultz 1997).

NO ACTION:

No additional taxes would be collected from the applicant under the No Action Alternative. The applicant may continue to lease pasture for cattle grazing in the proposed game farm area.

CUMULATIVE EFFECTS:

No adverse cumulative effects to public services, taxes, and utilities are anticipated to result from the Proposed Action and past, present and reasonably foreseeable activities in the vicinity of the proposed game farm.

COMMENTS:

No mitigation measures are recommended with respect to public services, taxes, and utilities.

REFERENCES:

Dopp, Donnette. 1997. Richland County Treasurer. Personal communication with H Kuder, Maxim Technologies, Inc. November, 1997.

Schultz, Luella. 1997. Department of Livestock, Animal Health Division. Memorandum to Alice Stanley, Maxim Technologies. October 27, 1997.

HUMAN ENVIRONMENT

11. AESTHETICS/RECREATION Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?						
b. Alteration of the aesthetic character of a community or neighborhood?						
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?						

AFFECTED ENVIRONMENT:

The game farm site is located 5 miles south of Culbertson, in Richland County, Montana. A portion of the west side of the 100-acre area is bounded by BLM land and the northern boundary is near State land (**Figure 1**).

PROPOSED ACTION:

No adverse impacts to the public view, character of the neighborhood, or recreational opportunities in the area would result from the Proposed Action.

NO ACTION:

No adverse impacts to aesthetics or recreational opportunities in the area would result from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present and reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

No mitigation measures are recommended with respect to aesthetics and recreation.

HUMAN ENVIRONMENT

12. CULTURAL & HISTORICAL RESOURCES Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?					Yes	12(a)
b. Physical change that would affect unique cultural values?						
c. Effects on existing religious or sacred uses of a site or area?						

AFFECTED ENVIRONMENT:

No historic sites are recorded on the proposed game farm based on a cultural resource file search by the State Historical Preservation Office (SHPO 1997).

PROPOSED ACTION:

12(a) According to SHPO (1997), there is a low likelihood for this project to affect unknown or unrecorded cultural properties.

NO ACTION:

No impacts to unknown cultural resources are expected from the No Action Alternative unless other disturbances occur within the property.

CUMULATIVE EFFECTS:

No additional impacts from past, present and reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Required Stipulations: None.

Recommended Mitigation Measures:

If archeological artifacts are observed during construction of the game farm fence or from other activities, work should stop in the area and the discovery reported to:

Montana Historical Society
Historic Preservation Office
1410 8th Avenue; P.O. Box 201202
Helena, Montana 59620
(406) 444-7715

If work stoppage in the area containing observed artifacts is not possible, record the location and position of each object, take photographs, and preserve the artifact(s).

REFERENCES:

Montana State Historic Preservation Office (SHPO), 1997. Letter from Phillip Melton (SHPO, Helena, MT) to Daphne Digrindakis (Maxim Technologies, Inc.), dated November 25, 1997.

SUMMARY

13. SUMMARY Would the Proposed Action, considered as a whole:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)						
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?					Yes	13(b)
c. Potentially conflict with the substantive requirements or any local, state, or federal law, regulation, standard or formal plan?						
d. Establish a precedent or likelihood that future actions with significant environmental impacts would be proposed?						13(d)
e. Generate substantial debate or controversy about the nature of the impacts that would be created?						13(d)

PROPOSED ACTION:

13(b) There is an undetermined potential of domestic elk carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis, chronic wasting disease, or meningeal worm and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk, or other wildlife. Release of a contagious disease in the wild could severely impact native wildlife populations. It is also possible that disease and parasites carried by wild elk could be introduced to domestic elk with equally severe impacts. Ingress of wild elk, deer, and moose would likely result in the destruction of the trespassing animals.

Spread of a contagious wildlife disease may directly or indirectly (depending on the nature of the disease) affect the human environment by reducing the number of wild deer and elk available for hunting, or exposing hunters to diseases that are contagious to humans as well.

13(d) The nature of impacts to wildlife from elk game farms is currently under debate in Montana and other states. The following issues are of the greatest concern:

- Disease transmission from game farm elk to wildlife is possible if the game farm elk are diseased and have an opportunity to come into contact with wild elk or deer.
- Hybridization of Montana's game species resulting from the ingress/egress of animals on game farms.
- Potential for wild animals to ingress into the game farm. Ingressing elk and deer are generally killed, typically by FWP wardens, to prevent potential disease transmittal. Ingressing mountain lions and black bears may be immobilized and removed.
- Theft of wild animals for financial gain on game farms.

These issues are particularly controversial when game farms block migration routes or consume significant areas of land historically utilized by wild game. Inadequate perimeter fencing and fence monitoring on the part of the game farm operator can also lead to ingress and egress events and nose-to-nose contact between wild game and game farm animals. Because the proposed game farm area is too small to effectively block big game migration routes or consume a significant portion of land utilized by wild game, the controversial nature of the Proposed Action is minor.

SUMMARY EVALUATION OF SIGNIFICANCE CRITERIA

a. **Does the Proposed Action have impacts that are individually minor, but cumulatively considerable? (A project may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)**

No, the year-long use of the enclosure by up to 40 adult and 20 calf elk will not result in any significant cumulative impacts.

b. **Does the Proposed Action involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?**

Yes. An unlikely, but extremely hazardous event should it occur, would be the spread of a disease or parasite from domestic elk to wild elk or deer. The risk of this event occurring can be reduced by following the mitigations listed in Sections 3, 5 and 8 (Water Resources, Fish/Wildlife, and Risk/Health Hazards, respectively).

c. **Description and analysis of reasonable alternatives (including the No Action Alternative) to the Proposed Action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:**

No Action Alternative: The No Action Alternative would avoid all potential impacts listed above. This site would likely be used for hay and crop production, and grazed by domestic cattle or sheep should the No Action Alternative be selected. The No Action Alternative would probably not result in exclusion of wildlife from this site.

d. **Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:**

This section provides an analysis of impacts to private property by proposed restrictions or stipulations in this EA as required under 75-1-201, MCA, and the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The analysis provided in this EA is conducted in accordance with implementation guidance issued by the Montana Legislative Services Division (EQC 1996). A completed checklist designed to assist state agencies in identifying and evaluating proposed agency actions, such as imposed stipulations, that may result in the taking or damaging of private property, is included in **Appendix A**. Mitigation measures described in this section address both minor and significant impacts. FWP would require stipulations to mitigate all potentially significant impacts from the Proposed Action. Most potential minor impacts from the Proposed Action are addressed as mitigation measures that are strongly recommended, but not required.

Required Stipulation #1

Report the ingress of any wild game animals or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress was achieved.

Restriction on Private Property Use - This stipulation restricts the use of private property by effectively requiring that the proposed game farm be monitored at least once daily for ingress or egress events. The stipulation is consonant with the current FWP requirement to report egress events immediately [ARM 12.6.1517(2)].

Alternatives to Stipulation #1 - *Do not report ingress and egress events to FWP immediately.*

This stipulation would not adequately address the increased risk to wildlife health. Ingressing wild animals must be detected immediately to prevent contact with wild game after contact with game farm animals.

Benefits from Imposing Stipulation #1 - This stipulation is imposed to mitigate predicted risk to wildlife health posed by the proposed game farm. Information provided by the stipulation would help the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. This stipulation, in addition to existing FWP fencing and wildlife protection requirements, would effectively reduce the risk to wildlife health.

Types of Expenditures Stipulation #1 Would Require - The stipulation to require immediate notice of ingress and egress events would not impose any additional expenditures beyond those necessary to report egress events in accordance with ARM 12.6.1517(2).

Stipulation's Effect on Property Values - None.

PART III. NARRATIVE EVALUATION AND COMMENT

Wildlife use of the area and potential for through-the-fence contact with game farm animals (consider year-around use, traditional seasonal habitat use, and location of travel routes and migration corridors).

Through the fence contact: The proposed game farm is located in low density mule and white-tailed deer habitat, and there is also a remote chance for a transitory wild elk to pass through this area and they might be attracted to the game farm by domestic elk. Nose-to-nose contact is most likely to occur between wild and domestic elk and unlikely to occur between domestic elk and wild deer. In addition, transitory wild elk may be attracted to domestic elk during the rut. Transmission of disease or parasites may occur during nose-to-nose contact, nose-to-body contact, and by contacting vegetation and feces along the fence line. Disease transmission may occur from wild ungulates to domestic elk and from domestic elk to wild ungulates. Diseases such as tuberculosis are highly contagious and can be easily transmitted between domestic elk and wild ungulates and domestic ungulates. Tuberculosis can also be transmitted to humans and is a serious health risk.

Risk of disease transmission can be reduced by maintaining the integrity of the enclosure fence, by maintaining a healthy domestic elk population, and by following the above listed mitigation recommendations. If the game farm is managed properly, the risk of disease transmission from domestic elk to wild ungulates would likely be minimal.

Potential for escape of game farm animals or ingress of wildlife (consider site-specific factors that could reduce the effectiveness of perimeter fences built to standards outlined in Rule 12.6.1503A, including steepness of terrain, winter snow depths/drifting, susceptibility of fences to flood damage, etc.).

Fence integrity: The proposed fence will consist of 8-foot high, 6-inch mesh, high-tensile big game fencing; supported by 12-foot long, 3-inch diameter steel posts set 3.5 feet into the soil and spaced at 24-foot intervals (old power poles may be used instead of steel pipe in some areas). All exterior gates will be constructed using 2-inch diameter structural metal tubing, 8 feet high, and reinforced with cattle paneling. Gates will have a double latch and single chain lock. The 15-acre enclosure site is located on level bottomland and with excellent site potential. This enclosure fence is reinforced with three strands of 3/8" diameter steel cable which should ensure fence integrity even if a tree falls on the fence during a high wind event. In addition, the Proposed Action includes removal of tree limbs overhanging the perimeter fence.

The 100-acre enclosure fence will transverse moderate to steep slopes along its northern, western and southern portions. This section of the proposed game farm includes river breaks topography with steep ridges and deep coulees. On slopes 30 degrees and steeper, the Proposed Action would include increased fence post height to at least 9 feet above ground level to accommodate an extra strand of wire. This additional strand should negate the ability of deer to take advantage of an inclined slope to jump the fence.

The proposed enclosure site is located at an elevation of about 2,000 feet and the expected snow levels during normal winters would be under 12 inches. However, this region periodically receives extreme winter weather and can accumulate 2 to 3 feet of snow. The proposed game farm has moderate to high potential for drifting during blizzards at the bottomland portion of the enclosure. The development of significant drifts will be dependent upon storm characteristics and topography. Under these extreme conditions the

height of the fence above compacted snow level may be sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access of supplemental feed. However, only a few wild deer and no wild elk would be expected to use this area during periods of major winter storms. Domestic elk may also be able to leave the enclosure during periods of excessive snow cover. The Proposed Action includes removal of snow drifts from the either side of the fence in drift prone areas during extreme winters.

Proportion (%) of the total habitat area currently used by wildlife that would be enclosed or otherwise impacted.

The enclosure will exclude resident wild mule and white-tailed deer from only a minor portion (<1%) of the area they presently have access to. The enclosure of 15 acres of bottomland habitat and 100 acres of rangeland will not seriously effect wild deer or other wildlife species population viability in this area.

PART IV. EA CONCLUSION

1. **Based on the significance criteria evaluated in this EA, is an EIS required? YES / NO**

   No. The appropriate level of analysis for the Proposed Action is a mitigated EA because:

   - all impacts of the Proposed Action have been accurately identified in the EA; and
   - all identified significant impacts would be mitigated to minor or none.

2. **Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the Proposed Action, is the level of public involvement appropriate under the circumstances?**

   Upon completion of the Draft EA, a notice is sent to adjoining landowners, local newspapers, and other potentially affected interests, explaining the project and asking for input during a 21-day comment period which extends from December 31, 1997 until 5 pm January 20, 1998. The Draft EA is also available to the public from the FWP office in Miles City at the address and phone listed below and in the *Introduction* section of this EA, and through the State Bulletin Board System during the public comment period.

3. **Duration of comment period if any:** 21 days

4. **Name, title, address and phone number of the Person(s) Responsible for Preparing the EA:**

Montana Fish, Wildlife & Parks

Don Hyyppa, FWP Region 7 Supervisor
P.O. Box 1630
Miles City, Montana 59301
(406) 232-4365

Raphael Mule', FWP Region 6 Wildlife Biologist
P.O. Box 558
Culbertson, Montana 59218
(406) 787-6387

Bryce Christensen, FWP Region 7 Warden Captain
P.O. Box 1630
Miles City, Montana 59301
(406) 232-4365

Karen Zackheim, FWP Game Farm Coordinator
Enforcement Division
1420 E. Sixth Avenue
Helena, MT 59620
(406) 444-2452

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Holly Kuder, Data Acquisition

FaunaWest Wildlife Consultants

Craig Knowles, Wildlife Biologist

APPENDIX A

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

The 54th Legislature enacted the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The intent of the legislation is to establish an orderly and consistent process by which state agencies evaluate their proposed actions under the "Takings Clauses" of the United States and Montana Constitutions. The Takings Clause of the Fifth Amendment of the United States Constitution provides: "nor shall private property be taken for public use, without just compensation." Similarly, Article II, Section 29 of the Montana Constitution provides: "Private property shall not be taken or damaged for public use without just compensation..."

The Private Property Assessment Act applies to proposed agency actions pertaining to land or water management or to some other environmental matter that, if adopted and enforced without compensation, would constitute a deprivation of private property in violation of the United States or Montana Constitutions.

The Montana State Attorney General's Office has developed guidelines for use by state agency to assess the impact of a proposed agency action on private property. The assessment process includes a careful review of all issues identified in the Attorney General's guidance document (Montana Department of Justice 1997). If the use of the guidelines and checklist indicates that a proposed agency action has taking or damaging implications, the agency must prepare an impact assessment in accordance with Section 5 of the Private Property Assessment Act. For the purposes of this EA, the questions on this checklist refer to the following required stipulation(s):

(a) *Report the ingress of any wild game animals or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress was achieved.*

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PRIVATE PROPERTY ASSESSMENT ACT?

YES	NO		
___	_X_	1.	Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
___	_X_	2.	Does the action result in either a permanent or indefinite physical occupation of private property?
___	_X_	3.	Does the action deprive the owner of all economically viable uses of the property?
___	_X_	4.	Does the action deny a fundamental attribute of ownership?
___	_X_	5.	Does the action require a property owner to dedicate a portion of property or to grant an easement? [If the answer is **NO**, skip questions 5a and 5b and continue with question 6.]
___	___	5a.	Is there a reasonable, specific connection between the government requirement and legitimate state interests?
___	____	5b.	Is the government requirement roughly proportional to the impact of the proposed use of the property?
___	_X_	6.	Does the action have a severe impact on the value of the property?
___	_X_	7.	Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? [If the answer is **NO**, do not answer questions 7a-7c.]

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PRIVATE PROPERTY ASSESSMENT ACT?

YES	NO		
___	___	7a.	Is the impact of government action direct, peculiar, and significant?
___	___	7b.	Has government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?
___	___	7c.	Has government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

Taking or damaging implications exist if **YES** is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if **NO** is checked in response to questions 5a or 5b.

If taking or damaging implications exist, the agency must comply with § 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.